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BEFORE THE ARIZONA CORPORATION COMMISSION

JEFF HATCH-MILLER, CHARIMAN
MARC SPITZER
WILLIAM A. MUNDELL
MIKE GLEASON
KRISTIN K. MAYES

IN THE MATTER OF THE APPLICATION OF SOUTHWEST GAS CORPORATION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF SOUTHWEST GAS CORPORATION DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA	Docket No. G-01551A-04-0876 **NOTICE OF FILING WRITTEN DIRECT TESTIMONY**

Southwest Energy Efficiency Project and Natural Resources Defense Council, through their undersigned counsel, hereby provides notice that it has this day filed the written testimony of Jeff Schlegel in connection with the above-captioned matter.

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DATED this 26th day of July, 2005.

ARIZONA CENTER FOR LAW IN THE PUBLIC INTEREST

By _____
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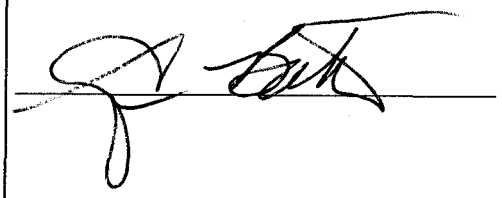

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COMMISSIONERS

JEFF HATCH-MILLER, CHAIRMAN
MARC SPITZER
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IN THE MATTER OF THE APPLICATION OF SOUTHWEST GAS CORPORATION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF SOUTHWEST GAS CORPORATION DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	Docket No. G-01551A-04-0876

Direct Testimony of

Jeff Schlegel

on behalf of

Southwest Energy Efficiency Project and Natural Resources Defense Council (SWEEP/NRDC)

July 26, 2005

Direct Testimony of Jeff Schlegel, SWEEP/NRDC
Docket No. G-01551A-04-0876

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Introduction

Q. Please state your name and business address.

A. My name is Jeff Schlegel. My business address is 1167 W. Samalayuca Drive, Tucson, Arizona 85704-3224.

Q. For whom are you testifying?

A. I am testifying on behalf of the Southwest Energy Efficiency Project and the Natural Resources Defense Council (SWEEP/NRDC).

Q. Please describe the Southwest Energy Efficiency Project (SWEEP).

A. SWEEP is a public interest organization dedicated to advancing energy efficiency as a means of promoting both economic prosperity and environmental protection in the six states of Arizona, Colorado, New Mexico, Nevada, Utah, and Wyoming. SWEEP works on state energy legislation, analysis of energy efficiency opportunities and potential, expansion of state and utility energy efficiency programs as well as the design of these programs, building energy codes and appliance standards, and voluntary partnerships with the private sector to advance energy efficiency. SWEEP is collaborating with utilities, state agencies, environmental groups, universities, and energy specialists in the region. SWEEP is funded primarily by foundations, the U.S. Department of Energy, and the U.S. Environmental Protection Agency. I am the Arizona Representative for SWEEP.

Q. Please describe the Natural Resources Defense Council (NRDC).

A. NRDC is a nonprofit organization of scientists, lawyers and environmental specialists with over 23,000 members and on-line activists in Arizona dedicated to protecting public health and the environment. NRDC has a long standing interest in minimizing the societal costs of the reliable energy services that a healthy economy requires. NRDC focuses on addressing its members' interests in receiving affordable energy services and reducing the environmental impact of energy consumption through utility procurement of cost-effective energy efficiency and other environmentally and economically sustainable resources.

Q. What are your professional qualifications?

A. I am an independent consultant specializing in policy analysis, evaluation and research, planning, and program design for energy efficiency and clean energy resources. I consult for public groups and government agencies, and I have been working in the field for over 20 years. In addition to my responsibilities with SWEEP, I am working or have worked extensively in many of the states that have effective energy efficiency programs, including California, Connecticut, Massachusetts, New Jersey, Vermont, and Wisconsin. In 1997, I received the Outstanding Achievement Award from the International Energy Program Evaluation Conference. Exhibit JS-1 summarizes my professional qualifications.

Q. What is the purpose of your testimony?

A. In my testimony I will discuss the public interest in increasing natural gas energy efficiency, summarize the savings potential and performance of gas energy efficiency programs based on studies and experience in other states, comment on the Demand Side Management (DSM) programs and funding proposed by Southwest Gas, propose modifications to the Southwest Gas DSM proposal, discuss related DSM issues including Commission approval and cost-recovery, propose a collaborative DSM working group, discuss the financial disincentive to natural gas utility support of energy efficiency, and oppose higher fixed charges for Southwest Gas customers.

The Public Interest in Increasing Natural Gas Energy Efficiency

Q. What is the public interest in increasing natural gas energy efficiency?

A. Natural gas DSM energy efficiency programs are in the public interest. Increasing gas energy efficiency will provide significant and cost-effective benefits for Southwest Gas customers, the natural gas and electric utility systems, the economy, and the environment. Increasing natural gas energy efficiency will save consumers and businesses money through lower energy bills, resulting in lower total costs for customers. Natural gas energy efficiency programs will help mitigate fuel price increases and reduce customer vulnerability and exposure to natural gas price volatility. Increasing natural gas energy efficiency will also diversify energy resources, reduce air pollution and carbon emissions, and create jobs and improve the economy. Natural gas energy efficiency is a reliable energy resource that costs less than other resources for meeting the energy needs of customers in the Southwest Gas service territory.

There are many opportunities for cost-effective natural gas energy efficiency in the Southwest Gas service territory in Arizona, as evidenced by gas DSM programs and gas DSM potential studies in other states.

The Potential for Natural Gas DSM Savings and Experience in Other States

Q. Have there been any recent studies of natural gas energy efficiency potential in the Southwest region?

A. Two such studies were completed recently by the consulting firm GDS Associates, Inc. One study was completed for a Utah Natural Gas DSM Advisory Group[1] and the other was for Public Service Company of New Mexico (PNM).[2]

Q. What do these studies of energy efficiency potential conclude?

A. Both studies indicate very substantial cost-effective and achievable natural gas savings potential. The Utah study concludes that a comprehensive and well-funded 10-year DSM effort could reduce gas use by residential and commercial customers 20 percent at the end of the 10-year period. The estimated benefit-cost ratio for this overall effort is 2.39 using the Total Resource Cost (TRC) test. The PNM study estimates that implementing a broad set of cost-effective DSM programs during 2005-2014 could reduce gas use of all customers 12% by 2014. In this case the estimated benefit-cost ratio is 1.85, again using the TRC test.

Q. What is the experience with natural gas DSM programs in other states?

A. While not as common as electric utility DSM programs, numerous gas utilities are implementing cost-effective DSM programs that are helping their customers reduce their gas consumption and gas bills. Based on a survey of America's leading natural gas DSM programs[3], here are three examples of successful gas DSM programs.

Keyspan Energy, which operates in both New York and Massachusetts, is investing about $13 million per year on a comprehensive set of gas energy efficiency programs for residential and commercial customers. Keyspan saved 430 million cubic feet of gas from all programs implemented in 2002. Their programs as a whole have a benefit-cost ratio of 2.45.

[1] *The Maximum Achievable Cost Effective Potential for Gas DSM in Utah for the Questar Gas Company Service Area.* Final Report prepared by GDS Associates for the Utah Natural Gas DSM Advisory Group, June 2004. http://www.swenergy.org/news/Natural_Gas_DSM_Potential_in_Utah.pdf

[2] *The Maximum Achievable Cost Effective Potential for Natural Gas Energy Efficiency in the Service Territory of PNM.* Final Report prepared by GDS Associates for PNM, May 27, 2005.

[3] *Exemplary Natural Gas Energy Efficiency Programs.* Washington, DC: American Council for an Energy-Efficient Economy. Dec. 2003. http://www.aceee.org/utility/ngbestprac/ngbestpractoc.pdf

Xcel Energy implements gas DSM programs in Minnesota. The utility's rebate program for high efficiency commercial and industrial gas boilers saved 168 million cubic feet of gas in 2002 alone and operates at an average cost of $2.50 per thousand cubic feet saved.

In *Wisconsin*, DSM programs are implemented statewide by a third party program administrator. The ENERGY STAR products incentive and promotion program achieved 43% market share for ENERGY STAR clothes washers in 2003, the highest market share in the nation. The clothes washer program saved 40 million cubic feet of gas in 2002 alone with a benefit-cost ratio counting gas savings only of 1.85.

In addition, *California*[4] recently adopted cost-effective energy savings requirements for gas utilities. The requirements will provide customers relief from rising natural gas bills by tripling annual gas savings by the end of the decade (saving 444 million therms per year by 2013, equivalent to the consumption of one million households), and cutting growth in gas consumption by final consumers in half.

Q. How much is being invested in leading gas DSM programs by gas utilities in other states?

A. Gas utilities in a number of states including California, Connecticut, Massachusetts, Iowa, Vermont, and Washington are investing 0.7-2.1% of their revenues on gas DSM programs according to a survey completed in April, 2004.[5]

Southwest Gas Proposal for Increased DSM Programs and Funding

Q. Do SWEEP/NRDC support the Southwest Gas proposal for increased DSM programs and funding?

A. Yes. SWEEP/NRDC support the two existing and seven additional natural gas DSM programs, and the DSM funding increase from $0.6 million to $4.385 million, proposed by Southwest Gas. The proposed DSM programs will provide significant and cost-effective benefits for Southwest Gas customers. All Southwest Gas customer classes and segments will have an opportunity to participate in and benefit directly from at least one DSM program in the portfolio that Southwest Gas proposed.

Below is a table summarizing the Southwest Gas DSM proposal for easy reference.[6]

[4] California Public Utilities Commission. Decision D.04-09-060, September 2004.
[5] IndEco Strategic Consulting Inc. and Navigant Consulting Ltd. *DSM in North American Gas Utilities.* Report prepared for Enbridge Gas Distribution. April 2004. http://www.indeco.com/www.nsf/papers/regframeworkdsm
[6] Direct Testimony of Vivian Scott, Southwest Gas, Appendix B.

Customer Sector	Program	Funding
Residential	Low-Income Energy Conservation	$ 500,000
Residential	Energy Star Home Certification	250,000
Residential	Multi-Family New Construction	1,200,000
Residential	Residential Energy Conservation	200,000
Residential	Energy Star Appliances	800,000
Commercial/Industrial	Food Service Equipment	500,000
Commercial/Industrial	Efficient Commercial Building Design	500,000
Commercial/Industrial	Technology Information Center	35,000
Industrial	Distributed Generation	400,000
	Total	**$ 4,385,000**

Q. Do SWEEP/NRDC propose any revisions to the DSM program funding proposed by Southwest Gas?

A. Yes. SWEEP/NRDC propose that funding for the residential new construction program (ENERGY STAR Home Certification) should be increased, to at least $1 million annually, to better address the cost-effective opportunities in new construction throughout the Southwest Gas service territory. Additional DSM funding is necessary to capture energy efficiency opportunities in the fast-growing new home market, including promoting and incentivizing new homes that exceed the ENERGY STAR threshold. Also, additional DSM funding is needed to offer the program throughout the Southwest Gas service territory; the new home program should not be limited to the Tucson area as the EAP program has been in the past. Total DSM program funding would be $5.135 million with the increase in residential new construction funding.

Q. How cost-effective will the portfolio of Southwest Gas DSM programs be?

A. SWEEP/NRDC estimate that the societal benefits of the Southwest Gas DSM portfolio will be about two times the societal cost (a benefit/cost ratio of about 2.0), based on the recent natural gas DSM potential studies in Utah and New Mexico, and experience with gas DSM programs in other states. The specific costs, benefits, and cost-effectiveness of the Southwest Gas DSM portfolio and the individual DSM programs should be documented in the DSM portfolio and program plan (described below).

Q. Should Southwest Gas coordinate with electric utilities regarding DSM programs?

A. Southwest Gas should attempt to coordinate with electric utilities to jointly promote and deliver electric and natural gas energy efficiency services, particularly for new construction, where possible.

Q. Please describe the performance incentive that SWEEP/NRDC propose Southwest Gas could earn for effective DSM performance.

A. SWEEP/NRDC propose a positive performance incentive that Southwest Gas would earn if it implements effective DSM programs that meet program goals. The performance incentive mechanism should be based largely on a portion of the net economic benefits of the DSM program portfolio, supplemented with a small number of program-specific performance metrics for some programs (e.g., number of customers served in the low income program). The total incentive level should be capped at 10% of the DSM program funding, resulting in a maximum performance incentive of $513,500 in 2006, based on 2006 DSM program funding of $5.135 million. Total DSM funding would be $5.649 million including the maximum performance incentive amount.

The proposed performance incentive mechanism should be described in the DSM portfolio and program plan to be submitted by Southwest Gas (see below). The portion (%) of the net economic benefits that Southwest Gas is eligible to receive should be proposed as a component of the incentive mechanism design in the plan. The performance incentive mechanism should include a threshold for minimum performance level; if actual performance is less than the threshold Southwest Gas would not receive any incentive. The performance incentive earned should be based on actual DSM results.

Q. What is a reasonable and meaningful level of DSM effort for Southwest Gas?

A. The proposed DSM programs and the $5.649 million total DSM funding level represent a reasonable and meaningful level of DSM effort for Southwest Gas in 2006, during a year when Southwest Gas is ramping up its DSM activities. The DSM program funding of $5.135 million in 2006 is equivalent to about 0.8% of revenues, based on 2004 test year revenues.[7]

Additional cost-effective DSM programs and activities should be considered for future years (2007 and beyond), and should be implemented if approved by the Commission in the future.

Q. How should Southwest Gas recover the costs of Commission-approved DSM programs?

[7] $5.135 million of 2006 DSM program funding divided by $647.277 million of 2004 test year revenues, per Southwest Gas Schedule E-6.

A, SWEEP/NRDC agree with Southwest Gas that the current adjuster mechanism should be used to recover the costs of Commission-approved DSM programs. All customer classes should pay the surcharge in the future since there will be DSM programs to benefit all customer classes. The adjuster mechanism should be used for the programs proposed by Southwest Gas, at the level of funding SWEEP/NRDC recommend ($5.649 million in 2006). Southwest Gas should be able to increase the level of the adjuster mechanism and the associated surcharge in the future, without a rate case proceeding, if the Commission approves increases in DSM funding for previously-approved programs or if the Commission approves additional DSM programs.

Q. How should DSM programs be reviewed and approved by the Commission?

A. All DSM programs should be pre-approved by the Commission before Southwest Gas should be allowed to include the program costs in any determination of total DSM costs incurred. Southwest Gas should file a DSM portfolio and program plan describing the details of the programs and their cost-effectiveness, either as a supplemental filing in this proceeding (preferred) or within 90 days of the Commission's order in this proceeding. The DSM portfolio and program plan should describe the proposed programs, and include estimated benefits, costs, cost-effectiveness, and measurement and evaluation plans for Commission review.

Q. Is there a need for a collaborative DSM working group for Southwest Gas?

A. Yes. Southwest Gas should implement and maintain a collaborative DSM working group to solicit and facilitate stakeholder input, assist Southwest Gas in developing DSM programs, advise Southwest Gas on program implementation, and review DSM program performance including program evaluations and reports. The DSM working group should review draft DSM plans, proposals, and reports prior to Southwest Gas submitting them to the Commission. If Southwest Gas does not submit a DSM program proposal considered by the collaborative DSM working group to the Commission, any member of the working group may submit the program proposal directly to the Commission for its consideration and approval. At a minimum, Staff, RUCO, AECC, the Arizona State Energy Office, SWEEP, and NRDC should be invited to participate with Southwest Gas in the collaborative DSM working group.

Financial Disincentive to Natural Gas Utility Support of Energy Efficiency

Q. Does Southwest Gas experience a financial disincentive to its support of energy efficiency efforts when its customers respond and become more energy efficient?

A. Yes. Traditional utility regulation links the utility's financial health to the volume of natural gas sold, resulting in a financial disincentive to invest in energy efficiency and

other demand-side resources that reduce natural gas sales. For Southwest Gas, energy savings by customers (which are beneficial for customers) result in lower revenues for the company and threaten recovery of utility fixed costs. In general, this financial disincentive can reduce utility support and enthusiasm for cost-effective resources such as energy efficiency programs that minimize the long-term cost of providing service. It also could impede potentially crucial utility support for energy-efficiency standards, building energy codes, and other policies that serve societal interests and reduce energy use without requiring any direct utility investment.

The financial disincentive is particularly strong for natural gas utilities that have experienced an overall trend of declining gas usage per customer, which is the situation for Southwest Gas.

Q. How should this financial disincentive be addressed?

A. SWEEP/NRDC agree that the issue of the financial disincentive to natural gas utility support of energy efficiency should be addressed in Arizona in a timely manner. We believe this will be necessary if Arizona wants to fully tap the potential for its lowest cost natural gas resource – cost-effective energy efficiency improvements.

While not prejudging the specific Conservation Margin Tracker (CMT) mechanism proposed by Southwest Gas, SWEEP/NRDC believe that the gas utility financial disincentive issue and a full analysis of the pros and cons of mechanisms for removing the financial disincentive, including but not limited to the CMT, should be reviewed and evaluated prior to Commission adoption of a specific mechanism. This issue would benefit from a broader and more in-depth discussion, in this proceeding or in another forum. SWEEP/NRDC recommend that a wider range of mechanisms that break the link between the utility's financial health and energy sales, including decoupling, be further explored by the Commission before a particular mechanism is adopted. SWEEP/NRDC also recommend that the Commission give consideration to the following questions, among others, when developing or reviewing any proposed mechanism to address the financial disincentive for natural gas utilities:

1. Who should bear responsibility for weather variations and associated weather risk?
2. Who should bear the risks of variations in economic growth from forecasted levels and overall demographic and energy usage trends?

If not addressed fully in this proceeding, in the manner described above, SWEEP/NRDC recommend that the issue of the financial disincentive and potential mechanisms to address it be discussed in the DSM policy process, either through additional comments on the proposed DSM policies or through additional DSM policy workshops. Proposed policies or mechanisms resulting from the DSM policy process should then be submitted to the Commission.

Q. Have other states adopted mechanisms to reduce or remove the financial disincentive that gas utilities face if they implement effective energy efficiency programs?

A. Yes. A number of states including California[8], Massachusetts, Minnesota, New Hampshire, and Oregon have done so either through adopting some form of gas sales-revenue decoupling mechanism, or a positive financial incentive based on DSM program performance.[9]

Fixed Charges

Q. Should the Commission approve higher fixed charges for Southwest Gas?

A. No. SWEEP/NRDC oppose higher fixed charges for natural gas customers because higher fixed charges would mute and reduce the price signal customers would receive when they reduce energy use and become more energy efficient, and therefore would reduce the power they have over their own energy bills.

Conclusion

Q. Please provide an overall conclusion for your testimony.

A. SWEEP/NRDC support the DSM programs proposed by Southwest Gas and recommend the modifications and additions to their DSM proposal described herein. Furthermore, we urge the Commission to implement programs, policies, and mechanisms that *encourage* cost-effective energy efficiency, not discourage it, for customers and for natural gas utilities. Increasing natural gas energy efficiency will provide significant and cost-effective benefits for Southwest Gas customers, the natural gas and electric utility systems, the economy, and the environment.

Q. Does that conclude your direct testimony?

A. Yes.

[8] California Public Utilities Commission. Decisions D.04-05-055, June 2004, for PG&E; D.05-03-023, March 2005, for SDG&E and SoCalGas.
[9] See footnotes 3 and 5.

Qualifications of Jeff Schlegel

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Jeff Schlegel is an independent consultant specializing in policy analysis, planning, evaluation and research, and program design for energy efficiency, renewable energy, and low-income energy programs. Mr. Schlegel has more than 20 years of experience in the energy field. He works for public groups, collaboratives, and government agencies. Currently he is working with:

- The Southwest Energy Efficiency Project (SWEEP) on energy efficiency and distributed resources issues (2002-present);
- The State of Connecticut Energy Conservation Management Board, a public board appointed by the Connecticut legislature to oversee energy efficiency, demand response, and low income programs in the state (2000-present);
- The Massachusetts Energy Efficiency Collaboratives on behalf of the non-utility parties, providing policy analysis, planning, and evaluation oversight of energy efficiency and demand response programs (1992-present).

Summaries of Recent Projects: Policy Analysis, Planning, Program Design, and Measurement and Evaluation for Energy Efficiency and Renewable Energy Programs

- Arizona representative for the Southwest Energy Efficiency Project (SWEEP), a public interest organization devoted to advancing energy efficiency in Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming (2002-present). SWEEP was launched in 2001, and is working collaboratively with state governments, utilities, and other organizations. Represents SWEEP in Arizona, and coordinates with a coalition of environmental, consumer, and renewable energy groups in Arizona and the southwest on energy efficiency and distributed resource issues. Advocates and provides technical assistance regarding policies, programs, and market rules to advance energy efficiency.

- Policy and evaluation consultant for the Massachusetts non-utility parties in the New England energy efficiency collaboratives (1992-2003). Also provided policy analysis and evaluation support for the Conservation Law Foundation (CLF) in the early period of the collaboratives. Provides policy and technical support directly to the non-utility parties in the Massachusetts collaboratives (National Grid/Massachusetts Electric, NSTAR/Boston Edison, and Northeast Utilities/Western Massachusetts Electric), and coordinates with other collaboratives in New England. Mr. Schlegel's primary responsibilities include policy analysis, resource analysis and planning, evaluation and research, and program review for commercial and industrial (C&I) as well as residential programs.

- Policy, program, and evaluation consultant for the State of Connecticut Energy Conservation Management Board (ECMB), a public board appointed by the Connecticut legislature to oversee energy efficiency, demand response, and low income programs in the state (2000-present). Serves as the lead technical and policy consultant for the ECMB regarding the Conservation and Load Management (C&LM) programs in Connecticut, funded at $89 million annually.

- Technical consultant for the New England Demand Response Initiative (NEDRI). Assisted a 50-member stakeholder group from the six New England states in developing a comprehensive, coordinated set of demand response programs for the New England regional power markets (2002-2003).

- Policy, evaluation, and protocols consultant for the New Jersey Clean Energy Collaborative, a collaborative of the New Jersey electric and gas utilities and the Natural Resources Defense Council (NRDC) on energy efficiency and low income programs (2000-2003).

- From July 1997 to March 2000, Mr. Schlegel served as the lead technical consultant to the California Board for Energy Efficiency (CBEE). CBEE was a public advisory board that provided recommendations to the California Public Utilities Commission on the $275 to $300 million of energy efficiency programs operated in the State of California annually by the four largest investor-owned utilities. In this full-time position Mr. Schlegel served as the CBEE's technical coordinator and lead technical consultant; developed and drafted the energy efficiency policy rules adopted by the California Public Utilities Commission; assisted the CBEE in formulating policy and program recommendations for consideration by the Commission; examined policy initiatives proposed by utilities and parties; reviewed and prepared comments on three years of annual program plans proposed by the utilities; recommended new program concepts and alternatives to utility proposals based on compilation and assessment of ideas from other states and regions; tracked and monitored program performance and market progress; and developed an RFP for independent administration of energy efficiency programs. As part of this assignment Mr. Schlegel did extensive analysis of options for administration, management, and implementation of publicly-funded energy efficiency programs.

- Conducted a scoping study of market effects and market transformation due to California utility energy efficiency programs for the California PUC in conjunction with Lawrence Berkeley National Laboratory (1996). Reviewed the performance of C&I and residential programs in terms of how they have impacted and changed markets.

- Reviewed California demand-side management (DSM) measurement and evaluation activities for the California Public Utilities Commission (1994-1999), including the activities of the California Demand-Side Management Measurement Advisory Committee (CADMAC). This included independently reviewing the California measurement and evaluation protocols, providing independent assessments of utilities' requests for protocol waivers, and reviewing and commenting on evaluation studies and program performance.

- Participated in electric retail competition workshops and meetings, as part of the Arizona Corporation Commission's consideration of electric restructuring, on behalf of the Arizona Community Action Association (ACAA) (1994-1997). Represented low income customers and coordinated with consumer and environmental groups. Advocated and provided technical and policy support for energy efficiency and low income weatherization programs.

- Directed the evaluation of DSM shareholder incentive mechanisms for the California Public Utilities Commission (1992-1994). This study evaluated the effects of incentive mechanisms used for four California utilities and assessed the effectiveness of DSM incentives as a regulatory strategy. The evaluation also assessed the balance of risks and rewards for ratepayers and shareholders, evaluated market transformation, explored the role of measurement and evaluation in the regulatory process, and compared and contrasted various options for performance incentive mechanisms. As part of this study, Mr. Schlegel reviewed evaluation studies of DSM programs offered by the four major California utilities. Testified on these issues before the Commission in 1993-1994, and participated in a series of workshops on shareholder incentives in 1993.

- Reviewed the performance of DSM programs in New England for the Conservation Law Foundation and the Pew Charitable Trust (1994-1996). Compared evaluation results to planning estimates (costs, savings, and cost-effectiveness) to determine the overall performance and reliability of DSM.

- Conducted a verification audit of Pacific Gas and Electric Company's commercial and industrial custom rebate program as a consultant for the Commission Advisory and Compliance Division of the California Public Utilities Commission (CPUC) (1992-1993). As part of this project, designed the overall verification approach, developed the stratified sampling plan, reviewed the program results, and developed the procedures for adjusting engineering estimates based on the verification results.

- Executive Director (1990-1992) and Research Director (1985-1990) at Wisconsin Energy Conservation Corporation (WECC), a not-for-profit research, policy analysis, resource planning, and program design firm. Performed evaluations of utility, government, and public energy efficiency programs. Conducted research on new and emerging energy efficiency technologies, designed programs, and developed resource plans including portfolios of DSM and energy efficiency programs. As Executive Director, responsible for all operations of the not-for-profit corporation, with an annual budget of over $2 million. WECC grew from three to twenty-two employees during Mr. Schlegel's tenure.

Low-Income Program Experience

Mr. Schlegel has worked with utilities and government agencies to design, implement, and evaluate low-income programs. From October 1998 through May 2002 he worked with the Arizona Department of Economic Security on the REACH program, a low-income self-sufficiency program, performing evaluation, analysis, and reporting tasks. From 1994 to 1997 he worked with the Arizona Community Action Association (ACAA) on a series of energy affordability and weatherization/DSM programs. As part of this work he analyzed options, designed and evaluated different program approaches, and prepared comments for several rate cases. He has also represented ACAA on electric restructuring issues in workshops before the Arizona Corporation Commission.

Mr. Schlegel managed many projects with the State of Wisconsin Low Income Weatherization Assistance Program over an eight-year period from 1985 through 1993. He led the development of the integrated computerized energy audit system and other software used by the State of Wisconsin in its program. In 1989 he directed an evaluation and review of the use of the computerized energy audit system and infiltration procedures in the State of Wisconsin program. He also conducted an evaluation of the Wisconsin Gas Company low-income programs.

Awards

Mr. Schlegel is the winner of the 1997 Outstanding Achievement Award from the International Energy Program Evaluation Conference.

Publications and Presentations

Mr. Schlegel has presented at more than 60 major national, regional, and statewide energy conservation conferences, and is the author of many published papers and articles. He has presented papers at several major conferences including the National Association of Regulatory Utility Commissioners (NARUC) Conference, the International Conference on Energy Program Evaluation, the American Council for an Energy Efficient Economy (ACEEE) Summer Study on Energy Efficiency in Buildings, the National Energy Services and DSM Conferences, the E-Source Conference, the Affordable Comfort Conference, the National Low-Income Energy Consortium Conference, the National Community Action Foundation Conference, the National Consumer Law Center Conference, and the National Department of Energy Weatherization Conference. He was a panel leader for the 1990 and 1996 ACEEE Summer Studies on Energy Efficiency.